User's Manual

* This picture may be changed without any notice to improve the function.

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Before Using –

Please read this user manual carefully before using.

● Sandisk SD card that support over 512MB / under 16GB is recommended to use.

● Use only specified AC/DC and Voltage.

● Connect adapter correctly, otherwise it cause damage.

● Do not use the location where it rains and is humid, this product is not waterproof.

● Away from the location is exposed to hot-wind from heater and to direct sunshine, it cause to decrease the life of electric components.

● If WINYCAM is sealed, it block the effect of heat loss, and cause broken.

● Do not install near high-voltage generate (Motor, Outdoor Motor for Air

● Do not repair, break down and convert by yourself.

● Use only specified battery and accessory. Otherwise it decreases the parts of life and damage or might explode. In this case free charge service is not acceptable even during warrantee period.

● Please backup the data. We are not responsible for lost data.

● The contents of this manual could change without any notice.

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1 . Feature

● Palm size SD Recorder.

● Can check recorded image directly by WinyCam body with Built-in Color CMOS Camera.

● Can Connect external monitor with Video-in/out function

● Ultra-High sound quality with built-in microphone.

● 1.8 inch LCD display on body

● Motion detection function

● Selectable resolution D1(704x480), VGA(640x480), CIF(352x240), QVGA(320x240)

● Save recorded image in SD Card(512MB ~ 16GB / Recommended SanDisk SD Card)

● Max: 3~4 hours continuous record with Lithium-ion battery

● Over write function: overwrite automatically from oldest file

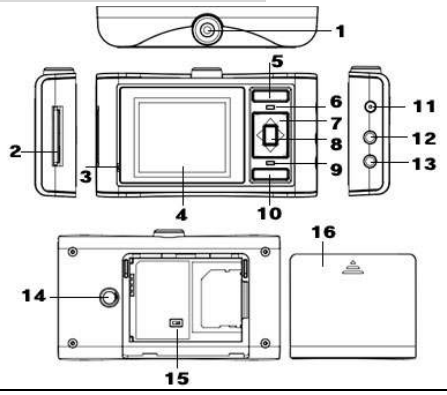
● TV Out Function

● Inverting Function (top / bottom / right / left)

● Expand Wide-Angle to 150° with Conversion Lens

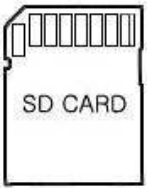
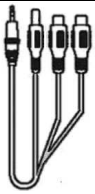
● Snap Shot

2. Parts names and Functions

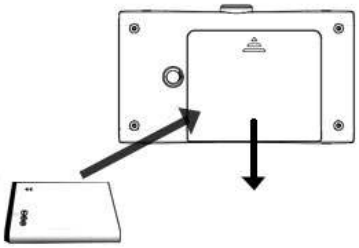


1.Built-in Camera	Record image by built-in camera / Connecting with Conversion Lens
2.SD CARD Slot	Insert SD CARD
3.Microphone	Audio Recording
4. 1.8" LCD Monitor	Confirm recorded image on LCD monitor
5.REC Key	To start recording
6. Rec LED Light	Recording: LED lamp flash green Screen save mode: LED lamp flash orange and red when the display is off
7. Move Key	▶ Right: Play Mode/ Rewind ◀ Left: Fast-Forward Press 2 sec: Invert right and left ▲ Top: Turn up the volume Press 2 sec: Invert top and bottom ▼ Bottom: Turn down the volume
8. Menu & Select Key	M Menu set up
9. Battery LED Light	Charging : Red / Completed charging: Green
10. Cancel Key	Power ON (2sec) OFF (3sec) / Cancel
11. Power Input	AC Adapter (DC 5V 2A)
12. Ear phone	Ear phone plug
13. Video IN/OUT	External Monitor Input, TV Monitor Output, External Camera(12V 150mA)
14. Bracket Mount	To fix bracket
15. Mode Conversion Key	CAR MODE/ NORMAL MODE
16. Battery Cover	Battery Cover

3. Packaged Items

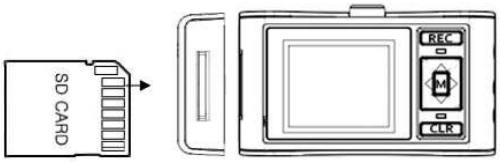
[WINYCAM]	[BATTERY]	 [2GB SD CARD]
[ADAPTER]	 [A/V CABLE]	[USER MANUAL]

4. Before set-up



① Remove the battery cover and set it on.

※ Check insertion direction

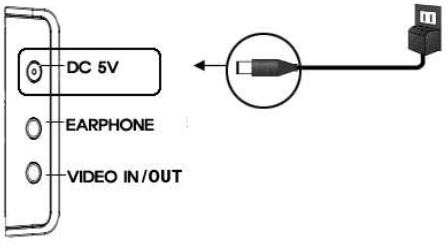


② Insert SD Card when power is off.

※ Check insertion direction

③ Connect AC adapter jack. As soon as AC adapter connected, it started to charge and light is on.(Charging: Red / Completed charging: Green) It run 4~5 hours on 1 hour charge.

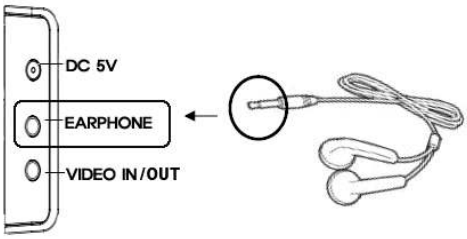
※ With using External Camera (without external charging), the Recording time will be around 1hour to 1hour and half.



④ Press 2sec(CLR⏻) to power on and check monitor display.

After "CHECK SD CARD" the image will be displayed.

■ Earphone

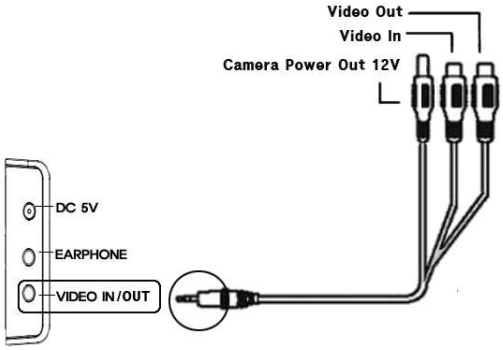


Connect Earphone to jack.

Volume can adjust with ▲ or ▼.

※Earphone can be used in playing

■ External Camera



As following left picture, connect enclosed Video cable to WinyCam and external Camera.

※Video Cable:

Black-External Camera 12V 150mA

Yellow-Video Input, **Blue**-Video Output

※To use external camera, set up **<<OUTER>>**. (Refer page 8 [2. Camera Setup])

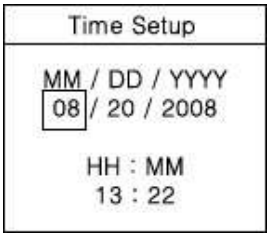
※Depend on External camera, BNC jack or RCA jack would be required.

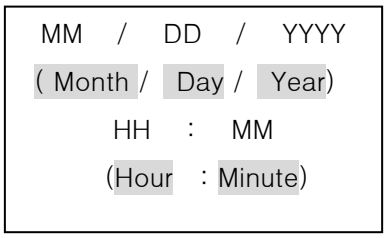
5. Set-up

Setup
1. Time Setup
2. Record Setup
3. System Setup
4. SDCard Info
5. Version Info

After Power is ON, press M, setup menu and 5 items are displayed.

5 – 1. Time Setup

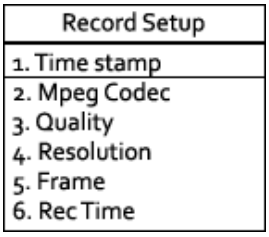


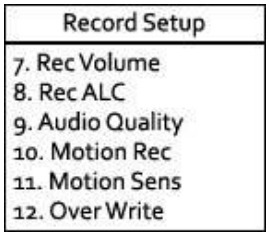


Scroll with ◀ / ▶ / ▲ / ▼ to set up the date and time.

After set-up, press M to save.

5 – 2. Record Setup





■ 1. Time Stamp

Recorded date and time is stamped. Select **<<YES>> (Stamped)** or **<<NO>> (No stamped)** and press M to save.

■ 2. Mpeg Codec

Set up what Mpeg Codec the image is compressed. Select **<<MP4>>** or **<<H.264>>** and press M to save.

■ 3. Quality

Set up the image quality. Select **NORM (normal quality)** / **HIGH (high quality)** / **LOW (low quality)**and press M to save.

■ 4. Resolution

Set up the image resolution. Select **<<320*240>>** or **<<640*480>>** and press M to save. The resolution is different when external camera is used.

◎Resolution Differences◎

	Built-in Camera	External Camera
CIF (QVGA)	320*240	352*240 (NTSC) 352*288 (PAL)
D1 (VGA)	640*480	704*480 (NTSC) 704*576 (PAL)

※ Refer P8 Video Format for NTSC/PAL

■ 5. Frame

Set up the Record Frame Range

NTSC : 1/3/6/10/15/30F, **PAL : 1/3/6/8/12/25F** (each 6 ranges)

Frame is different depend on external camera

■ 6. Rec Time

Set up Rec Time. Select **1min, 5min or 10min** and press M to save.

■ 7. Rec Volume

Select **1** (within 1 M) or **2** (Within 5 M) or **3** (Within 10 M) / **MUTE,** and press M to save.

■ 8. Rec ALC (Automatic Level Control)

Set up mode to protect cracking sound (sound crack in high volume) during recording. (Maintain the sound tone) Select **<<YES>>** (AVC) or **<<NO>>** (No AVC) and press M to save.

■ 9. Audio Quality

Set up Audio Quality.

Select **<<LOW>>** (Low Audio Quality) or **<<HIGH>>** (High Audio Quality) and press M to save.

■ 10. Motion Rec

Recording will be started when some motion is sensed in stand by mode. 20 sec record after motion detected until 'READY MODE' is shown.

Select **<<YES>>** (Motion Record) / **<<NO>>** (No Motion Record) and press M to save.

※ While Motion Rec is set up, [6. Rec Time] is inapplicable.

■ 11. Motion Sens

Set up motion sensitivity on motion detection function.

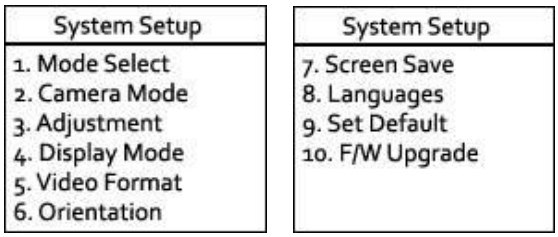
Select **<<NORM>>**(Detect normal motion) / **<<HIGH>>** (Detect small, quick motion) / **<<LOW >>**(Large, slow motion) and press M to save.

■ 12. Over Write

<<YES>> If SD Card Memory capacity will be full, the oldest file will be deleted automatically and new file will be made.

<<NO>> If SD Card Memory capacity will be full, no more record.

5 – 3. System Setup



■ 1. Mode Select

Set up Camcorder or camera

<<camcorder>> : Movie REC
<<camera>> : Snap shot REC

■ 2. Camera Mode

Set up which camera is used.

Select **<<INNER>>** (Built-in camera) or **<<OUTER>>** (External camera) and press [M] to save. When **<<OUTER>>** is set up, packaged Video cable should be used.

■ 3. Adjustment

Set up brightness of the image.

Select **BRIGHT** or **CONTRAST** and scroll ▲ or ▼ to set preferred Brightness. Press [M] to save. Brightness level is 0~100, when initialized, the value will returned to standard value.

■ 4. Display Mode

Set up Video-out.

Select **<<LCD>>** (Built-in LCD monitor) or **<<TV>>** (External monitor) and press [M] to save. **※ External monitor is set up, no image is shown in LCD. (Menu is displayed)**

■ 5. Video Format

Depend on external camera, set up **<<NTSC>>** or **<<PAL>>**

NTSC : Available in South Korea, USA, Japan, Taiwan, Mexico, etc. Total 44 countries (Basic set-up)
PAL : Available in Germany, England, China, Brazil, etc. Total 100 countries.

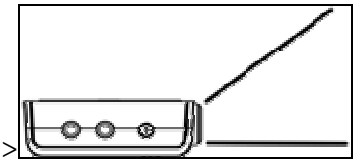
※ PAL setting image can work only PAL format.

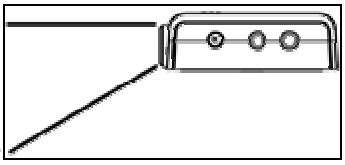
■ 6. Orientation

Depend on installed location, inversion image is automatically set up.

Select **<<DESKTOP>>** (Installed in a plane) or **<<CEILING>>** (Installed overturned Cam)

(Input image: 180 degree inversed)

<DESKTOP> 

<CEILING> 

■ 7. Screen Save

Set up Screen Save function to save a battery

<<YES>> The display turns off automatically 20second after last key is pressed. Recording or Power off can be confirmed LED light. (**Red** = Stand by, **Blink Red and Orange** = Recording)
<<NO>> Display Power is always ON.

■ 8. Languages

Set up language.

Select **<<English>>** or **<<한국어>>**(Korean) / **<<日本語>>**(Japanese) and press M to save.

■ 9. Set Default

Format CAM. Select **<<YES>>** (formatting) / **<<NO>>** (No formatting) and press M to save.

※ **SD Card can not be formatted.**

■ 10. F/W Upgrade

Upgrade the Firmware.

a. Get the latest S/W from our website **(http://www.winycam.com)** and down load to your PC

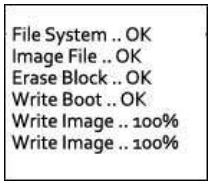
b. Copy down loaded S/W to your SD Card PC

c. Insert SD card to CARD Slot of CAM. Power on and Press CLR⏻

d. Select【10. F/W Upgrade】in【System Setup】and press M

e. Select **<<YES>>**(upgrade) with ◀ or ▶ and press M

Upgrade will be completed in 10 second as shown left picture.



* Note: Power should be kept ON.

f. The power will be off automatically after upgrade is completed. Press CLR⏻ to power on.

※ Upgrade is failed, **"F/W Upgrade fail"** will be shown on LCD. In this case, please make sure F/W file is in SD Card and try again.

5 – 4. SD Card Info

SD Card Information is shown

■ 1. Total

Total Capacity of SD Card

■ 2. Free

Free space of SD Card.

■ 3. Files

The number of saved files.

■ 4. Clear SD Card ?

Format SD Card

Press [M] and select **<<YES>>** (formatting) / **<<NO>>** (No formatting). Press [M] to save.

After selected**<<YES>>** and press [M], **"FORMATING Please wait ..."** will be shown.

And [SD Card Info] will be shown after completed formatting.

5 – 5. Version Info

System information can be confirmed.

Version Info
H/W : WINYCAM-V700 S/W :KRWIN09/03/24 Board Rev :1.0 CAR-MODE : ON

H/W = Hardware System Information
S/W = Software System Information
Board Rev : Board Information
CAR-MODE : OFF : NORMAL MODE
ON : CAR MODE

6. Record

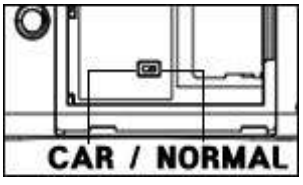
Record starts after pressed 'REC'. Press CLR⏻ to stop recording

LED light is blinking green during recording.

※ Refer 3. Packaged Items or [7. Screen Save] to confirm the recording

■ CAR MODE / NORMAL MODE

The mode switch can be seen when battery removed as below picture.



CAR : Recording starts automatically when car engine started
If car adapter is connected.

Recording stops in 20 second after car engine stopped.

NORMAL : Record starts manually.(basic set up)

※ During recording by CAR MODE, recording can not be stopped even press CLR⏻

■ Inverting Function

The image will be inversed right / left / top / bottom side after pressing ◀ or ▲ for 2 second on stand by mode. This inverting function may be required depend on installed location. **HV** (right / left / top / bottom), **H**–(right / left), **–V**(top / bottom) is displayed on top when image is inverted.

※ 2. Parts names and Functions –> 7. Move Key

7. Play

■ Play on the WinyCam

Press ▶ on stand by mode, recoded file lists is shown.

Select preferred file with ▲ or ▼ and press [M] to start playing.

Recorded image and file information are shown as well as available to select another file with ◀ or ▶. Press CLR⏻ to stop playing

① During playing

① ▲	Turn up the volume	④ ▶	(press longer) Fast Forward playing each 5 sec
② ▼	Turn down the volume	⑤ [M]	Pause
③ ◀	(press longer) Rewind playing each 5 sec	⑥ CLR⏻	Stop playing

② Delete recorded file

Press ▶ to show file list. Select file to delete. Delete is completed after press ▶ and **<<YES>>.** To save, press [M]To cancel deleting, select **<<NO>>** or CLR⏻

※ Note: Deleted file can not be returned.

■ Play on the PC

Recorded image on SD Card can be shown on PC with connecting SD Card connect to PC.

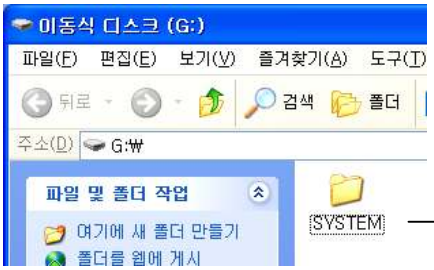
※ Note: Normal Multimedia software should be downloaded to your PC to play recorded image before using.

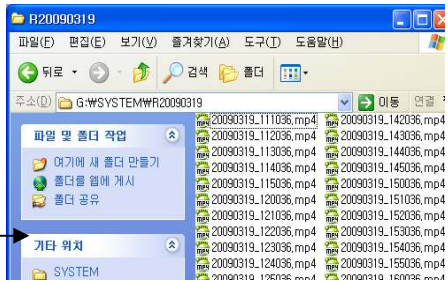
① Take SD Card out from WinyCam.

② Connect SD Card or Card reader to your PC.

③ Open the file of "System" on you PC.

④ Select file to play with your own S/W.





※ Refer left sample. The image will be shown as left.
The picture image is different depend own S/W

■ Play on the external monitor

Connect packaged AV cable to external monitor first.

Refer [4. Display Mode] at page 8 and select **<<TV>>**. (Blue cable is for external monitor)

■ File Name

File name is made by “YEAR” “MONTH” “DAY””HOUR””MINUTE””SECOND”

Ex) **090415_104420C1** –>2009. Apr, 15th 10:44: 22 am. C1 is for built-in camera and C2 is for external camera.

8. Other Accessories

■ Conversion Lens

Remove socket that attached WinyCam and screw conversion camera.

With conversion lens, the view angle expand by 150°.

By expanding view angle, the image might not be displayed clearly

<Without Lens / With Lens>

■ Bracket

Optioned our Bracket is easy to assemble/disassemble as well as can be installed mount hall the back side of WinyCam. Can be installed preferred place on the wall and car.

※ Bracket assemble manual is provided separately.

■ External Camera

※ Refer 4. Before Setup on page 4 -> External Camera

※ Refer 5 – 3. System Setup on page 8-> [2. Camera Mode]

※ External camera is not included in package. Please prepare customer side.

※ We are not responsible for External camera .

※ Please use specified Voltage for adapter and external camera. Otherwise it might cause product damage.

■ Accssories

Earphone	SD card reader	Conversion lens	Cigar jack	Pouch	Bracket
Sells Separately					

* This picture may be changed without any notice to improve the function.

9. SD Card

■ Sandisk SD card that support (512MB ~ 16GB) is recommended to use.
However, all of Sandisk cards can not be guaranteed to use.

■ Power should be OFF when SD Card is inserted / removed.

■ Do not give shock to card and use watered card.

■ All recorded will be deleted when SD Card is formatted. Please save imaged files to the PC.

■ During formatting SD Card, do not take SD Card out from WinyCam and do not turn off the power. It cause product damage.

10. Recording Time List

Image Quality	Frame	Rec Time (Hours)	Image Quality	Frame	Rec Time (Hours)
		2GB			2GB
HIGH (QVGA)	30F	4	HIGH (VGA)	30F	2
	15F	7		15F	5
	1F	42		1F	35
NORM (QVGA)	30F	7	NORM (VGA)	30F	5
	15F	13		15F	9
	1F	50		1F	45
LOW (QVGA)	30F	13	LOW (VGA)	30F	9
	15F	21		15F	16
	1F	55		1F	53

※ Please refer above list as standard.

The result is came from best condition of WinyCam, there might have some differences.

※ Depend on moving location, brightness on the place, the result might be changed.

※ Rec Time is longer with Low quality as well as Low FrameRange.

11. Specification

<table>
<tr><td>LCD</td><td colspan="3">1.8Inch TFT</td></tr>
<tr><td>Lens</td><td colspan="3">2.4mm (F 2.8) Pinhole</td></tr>
<tr><td>View Angle</td><td colspan="3">Normal 60° / With conversion lens Horizon:115°, Diagonal:150°</td></tr>
<tr><td>External Camera</td><td colspan="3">Unser 12V 150mA</td></tr>
<tr><td>Image Sensor</td><td colspan="3">1/6inch CMOS CAMERA. 30,000 pixel</td></tr>
<tr><td>Minimum Lux</td><td colspan="3">3Lux</td></tr>
<tr><td>Recording</td><td colspan="3">MPEG4, H.264</td></tr>
<tr><td>Video In/Out jack</td><td colspan="3">NTSC/PAL COMPOSITE (1.0 Vpp, stereo jack)
1CH Jack (Use only AV cord)</td></tr>
<tr><td>Audio In/Out jack</td><td colspan="3">Built-in high sensitivity microphone, 1CH Stereo Jack</td></tr>
<tr><td>Monitor
Resolution</td><td colspan="3">160×128</td></tr>
<tr><td rowspan="3">Resolution</td><td>Built-in Camera</td><td colspan="2">External Camera</td></tr>
<tr><td rowspan="2">VGA 640×480
QVGA 320×240</td><td>NTSC</td><td>D1(704x480), CIF(352x240)</td></tr>
<tr><td>PAL</td><td>D1(704x576), CIF(352x288)</td></tr>
<tr><td>Frame</td><td colspan="3">NTSC 1/3/6/10/15/30fps, PAL 1/3/6/8/12/25fps</td></tr>
<tr><td>Video Quality</td><td colspan="3">3 levels HIGH/NORM/LOW</td></tr>
<tr><td>REC Volume</td><td colspan="3">4 levels 1(1m)/2(5m)/3(10m)/MUTE</td></tr>
<tr><td>Audio Quality</td><td colspan="3">2 levels High / Low
AAC (44.1Khz, 16bit, 32Kpbs/8Khz, 16bit, 32Kbps)</td></tr>
<tr><td>Motion Sens</td><td colspan="3">3levels HIGH/NORM/LOW</td></tr>
<tr><td>Recording Media</td><td colspan="3">SD Card (512MB~16GB)</td></tr>
<tr><td>O/S</td><td colspan="3">RTOS</td></tr>
<tr><td>Power</td><td colspan="3">DC5V (AC adapter) , External Camera 12V 150mA
3.7V 1100mAh (Lithium ion battery)</td></tr>
<tr><td>Size · Weight</td><td colspan="3">92.5(W)×54(H)×18(D)mm / ARO 82g</td></tr>
<tr><td>Temperature</td><td colspan="3">+0 ~ +50 ℃</td></tr>
<tr><td>Package</td><td colspan="3">Battery, AC Adapter, SD Card (2GB),
Bracket, Card Reader</td></tr>
</table>